

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior version, and listings, of the claims in the application:

Listing of Claims

1. (Currently amended) A bale of elastomer composite comprising elastomer composite pieces, wherein the elastomer composite pieces comprise an elastomer and filler, and wherein the bale has a void volume of at least 3%, the elastomer composite produced by a method comprising

feeding a continuous flow of first fluid comprising elastomer latex to a mixing zone of a coagulum reactor defining an elongate coagulum zone extending from the mixing zone to a discharge end,

feeding a continuous flow of second fluid comprising particulate filler under pressure to the mixing zone of the coagulum reactor to form a mixture with the elastomer latex, the mixture passing as a continuous flow to the discharge end and the particulate filler being effective to coagulate the elastomer latex, wherein feeding of the second fluid against the first fluid within the mixing zone is sufficiently energetic to substantially completely coagulate the elastomer latex with the particulate filler prior to the discharge end, and

discharging a substantially continuous flow of elastomer masterbatch from the discharge end of the coagulum reactor.

2. (Original) A bale of elastomer composite in accordance with claim 1, wherein the bale has a void volume of approximately 3% to approximately 40%.

3. (Original) A bale of elastomer composite in accordance with claim 1, wherein the elastomer composite pieces have a generally planar form.

4. (Original) A bale of elastomer composite in accordance with claim 1, wherein the elastomer composite pieces have the form of short strips.

5. (Currently amended) A bale of elastomer composite comprising elastomer composite pieces, wherein the elastomer composite pieces comprise an elastomer and filler, wherein the bale has a void volume of at least 3% in accordance with claim 4, and wherein the elastomer composite pieces have the form of short strips that wherein the short strips are approximately 40 mm to 60 mm long, approximately 5mm to 10 mm wide, and approximately 5 mm to 10 mm thick.

6. (Currently amended) A bale of elastomer composite comprising elastomer composite pieces, wherein the elastomer composite pieces comprise an elastomer and filler, wherein the bale has a void volume of at least 3% in accordance with claim 1, and wherein the elastomer composite pieces have the form of pellets.

7. (Original) A bale of elastomer composite in accordance with claim 6, wherein the pellets have a diameter of approximately 5 mm to 10 mm and a length of approximately 10 mm to 30 mm.

8. (Currently amended) A bale of elastomer composite comprising elastomer composite pieces, wherein the elastomer composite pieces comprise an elastomer and filler, wherein the bale has a void volume of at least 3% in accordance with claim 1, and wherein the elastomer composite pieces have a Mooney viscosity of at least 100.

9. (Original) A method of producing a bale of elastomer composite, comprising the steps of:

mixing an elastomer latex with a filler to form an elastomer composite;
treating the elastomer composite to form elastomer composite pieces; and
forming the elastomer composite pieces into a bale having a void volume of at least 3%.

10. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the bale has a void volume of approximately 3% to approximately 40%.

11. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the elastomer composite pieces have a Mooney viscosity of at least 100.

12. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the elastomer composite pieces have a generally planar form.

13. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the elastomer composite pieces have the form of short strips.

14. (Original) A method of producing a bale of elastomer composite in accordance with claim 13, wherein the short strips are approximately 40 mm to 60 mm long, approximately 5 mm to 10 mm wide, and approximately 5mm to 10 mm thick.

15. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the elastomer composite pieces have the form of pellets.

16. (Original) A method of producing a bale of elastomer composite in accordance with claim 15, wherein the pellets have a diameter of approximately 5 mm to 10 mm and a length of approximately 10 mm to 30 mm.

17. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the step of treating the elastomer composite is performed using a granulator.

18. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the step of treating the elastomer composite is performed using a pelletizer.

19. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, further including the step of passing the elastomer composite through an open mill to form a sheet of elastomer composite prior to the step of treating the elastomer composite.

20. (Original) A method of producing a bale of elastomer composite in accordance with claim 9, wherein the step of forming the elastomer composite pieces into a bale is by compression.

21. (Original) A method of producing an elastomer composite blend, the method comprising:

blending a bale of elastomer composite pieces having a void volume of at least 3% with additional elastomer material comprising at least additional elastomer, to form an elastomer composite blend.

22. (Currently amended) A method of producing an elastomer composite blend in accordance with claim 21, where the elastomer composite pieces are prepared by the steps comprising

mixing an elastomer latex with a filler to form an elastomer composite and treating the elastomer composite to form elastomer composite pieces.

23. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the bale has a void volume of approximately 3% to approximately 40%.

24. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the elastomer composite pieces have a Mooney viscosity of at least 100.

25. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the additional elastomer comprises elastomer different from the elastomer of the elastomer composite.

26. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the step of blending the bale of elastomer composite with the additional elastomer material comprises dry mixing the bale of elastomer composite with the additional elastomer material.

27. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the additional elastomer material comprises additional filler.

28. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the bale of elastomer composite includes at least one additive selected from the group consisting of: antiozonants, antioxidants, plasticizers, processing aids, resins, flame retardants, extender oils, lubricants, cure activators, and combinations thereof.

29. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the elastomer composite pieces have the form of short strips.

30. (Original) A method of producing an elastomer composite blend in accordance with claim 21, wherein the elastomer composite pieces have the form of pellets.

31. (Currently amended) A method of producing an elastomer composite blend in accordance with claim 21–22, wherein the step of treating the elastomer composite is performed using a granulator.

32. (Currently amended) A method of producing an elastomer composite blend in accordance with claim 21–22, wherein the step of treating the elastomer composite is performed using a pelletizer.

33. (Currently amended) A method of producing an elastomer composite blend in accordance with claim 21–22, further including the step of passing the elastomer composite through an open mill to form a sheet of elastomer composite prior to the step of treating the elastomer composite.

34. (Currently amended) A container wherein at least a portion of the container is occupied by elastomer composite pieces comprising an elastomer and filler, and wherein the occupied portion of the container has a void volume of at least 3%, the elastomer composite produced by a method comprising

feeding a continuous flow of first fluid comprising elastomer latex to a mixing zone of a coagulum reactor defining an elongate coagulum zone extending from the mixing zone to a discharge end,

feeding a continuous flow of second fluid comprising particulate filler under pressure to the mixing zone of the coagulum reactor to form a mixture with the elastomer latex, the mixture passing as a continuous flow to the discharge end and the particulate filler being effective to coagulate the elastomer latex, wherein feeding of the second fluid against the first fluid within the mixing zone is sufficiently energetic to substantially completely coagulate the elastomer latex with the particulate filler prior to the discharge end, and

discharging a substantially continuous flow of elastomer masterbatch from the discharge end of the coagulum reactor.

35. (Original) A container in accordance with claim 34, wherein the occupied portion of the container has a void volume of approximately 3% to approximately 40%.

36. (Currently amended) A container ~~in accordance with claim 34~~ wherein at least a portion of the container is occupied by elastomer composite pieces comprising an elastomer and filler, wherein the occupied portion of the container has a void volume of at least 3%, and wherein the elastomer composite pieces have a Mooney viscosity of at least 100.

37. (Original) A container in accordance with claim 34, wherein the elastomer composite pieces have a generally planar form.

38. (Original) A container in accordance with claim 34, wherein the elastomer composite pieces have the form of short strips.

39. (Currently amended) A container ~~in accordance with claim 38~~ wherein at least a portion of the container is occupied by elastomer composite pieces comprising an elastomer and filler, wherein the occupied portion of the container has a void volume of at least 3%, and wherein the elastomer composite pieces have the form of short strips that are approximately 40 mm to 60 mm long, approximately 5 mm to 10mm wide, and approximately 5 mm to 10 mm thick.

40. (Currently amended) A container ~~in accordance with claim 34~~ wherein at least a portion of the container is occupied by elastomer composite pieces comprising an elastomer and filler, wherein the occupied portion of the container has a void volume of at least 3%, and wherein the elastomer composite pieces have the form of pellets.

41. (Original) A container in accordance with claim 40, wherein the pellets have a diameter of approximately 5 mm to 10 mm and a length of approximately 10 mm to 30 mm.

42. (Currently amended) A container ~~in accordance with claim 34~~ wherein at least a portion of the container is occupied by elastomer composite pieces comprising an elastomer and filler, wherein the occupied portion of the container has a void volume of at least 3%, and wherein the container is a bag, a drum, or a box.

43. (Original) A method of packaging elastomer composite pieces in a container wherein at least a portion of the container is occupied by elastomer composite pieces comprising the following steps:

mixing an elastomer latex with filler to form an elastomer composite;

treating the elastomer composite to form elastomer composite pieces; and

packaging the elastomer composite pieces in a container such that the occupied portion of the container has a void volume of at least 3%.

44. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, wherein the occupied portion of the container has a void volume of approximately 3% to approximately 40%.

45. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, wherein the elastomer composite pieces have a generally planar form.

46. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, wherein the elastomer composite pieces have the form of short strips.

47. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 46, wherein the short strips are approximately 40 mm to 60 mm long, approximately 5 mm to 10mm wide, and approximately 5 mm to 10 mm thick.

48. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, wherein the elastomer composite pieces have the form of pellets.

49. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 48, wherein the pellets have a diameter of approximately 5 mm to 10 mm and a length of approximately 10 mm to 30 mm.

50. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, wherein the step of treating the elastomer composite is performed using a granulator.

51. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, wherein the step of treating the elastomer composite is performed using a pelletizer.

52. (Original) A method of packaging elastomer composite pieces in a container in accordance with claim 43, further including the step of—passing the elastomer composite through an open mill to form a sheet of elastomer composite—prior to the step of treating the elastomer composite.

53. (Original) A method of producing an elastomer composite blend, the method comprising
providing a container wherein at least a portion of the container is occupied by elastomer composite pieces and wherein the occupied portion of the container has a void volume of at least 3%; and
blending the elastomer composite pieces with additional elastomer material comprising at least additional elastomer, to form an elastomer composite blend.

54. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the elastomer composite pieces are prepared by:

mixing elastomer latex with filler to form an elastomer composite and
treating the elastomer composite to form elastomer composite pieces.

55. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the occupied portion of the container has a void volume of approximately 3% to approximately 40%.

56. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the additional elastomer comprises elastomer different from the elastomer of the elastomer composite.

57. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the step of blending the elastomer composite pieces with the additional elastomer material comprises dry mixing the elastomer composite pieces with the additional elastomer material.

58. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the additional elastomer material comprises additional filler.

59. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the elastomer composite pieces include at least one additive selected from antiozonants, antioxidants, plasticizers, processing aids, resins, flame retardants, extender oils, lubricants, cure activators, and combinations thereof.

60. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the elastomer composite pieces have the form of short strips.

61. (Original) A method of producing an elastomer composite blend in accordance with claim 53, wherein the elastomer composite pieces have the form of pellets.

62. (Original) A method of producing an elastomer composite blend in accordance with claim 54, wherein the step of treating the elastomer composite is performed using a granulator.

63. (Original) A method of producing an elastomer composite blend in accordance with claim 54, wherein the step of treating the elastomer composite is performed using a pelletizer.

64. (Original) A method of producing an elastomer composite blend in accordance with claim 53, further including the step of passing the elastomer composite through an open mill to form a sheet of elastomer composite prior to the step of treating the elastomer composite.

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